



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

## FIRE WASTE

BY POWELL EVANS,

Chairman, Fire Prevention Commission of Philadelphia and  
Fire Waste Committee of the Chamber of Commerce  
of the United States of America.

Fire waste is as old as life. It has always been considered measurably necessary. Its cost has for many years—virtually throughout the civilized world, without limit even to national boundaries—been distributed as a burden upon all the people through the medium of fire insurance. There is a marked difference in the amount of this waste, measured per capita or on an insurance basis, between different nations, as well as between groups of nations. On the average the cost of fire waste and insurance in western Europe is about one-tenth that in North America, due mainly to better building construction, more intelligent control of occupancy, thriftier habits of the people and better governmental regulation of the entire subject abroad.

Until quite recent years the real causes and corrections of fire waste with us have been clearly known and understood only by the relatively small circle of fire insurance underwriters and their associates. About ten years ago the plan of a state officer empowered to investigate and regulate fire waste was first adopted in Massachusetts. By 1906 about half a dozen other states had followed suit. During the past five years there has been a marked awakening throughout all circles of the country concerning the size and character of fire waste in life and property, and the fact that it is in large part needless and preventable. During this time forty states have installed fire marshals (or other officers with similar powers), and many municipalities having realized that the bulk of this danger and loss was in their congested areas, have begun to exercise police power more freely and intelligently through varying agencies to control and abate it. Of late, especially, civic and commercial bodies are recognizing their stake and responsibility in the matter, and are beginning with fast growing understanding to take a determined hand in bettering fire waste conditions. Insurance which distributes the cost of fire waste is so much a part of the whole question that it must now be briefly reviewed.

The insurance world as a whole has, in physical and engineering research, rendered magnificent assistance in working out the problem of fire control. As a business proposition of conducting commercial fire insurance underwriting at a profit—insurance is procurable on properly located, constructed, protected, occupied and managed property in America at low final cost—on the one hand from the factory insurance associations (groups of certain stock insurance companies), and from certain individual stock insurance companies which specialize in the insurance and reinsurance of such selected risks, at low fixed charges; and, on the other hand, from the associated factory mutual fire insurance companies (mill mutuals) on low mutual charges determined by the final net coöperative loss.

Much farm and village property is insured in numerous small rural mutual companies throughout the country. The mill mutuals operate through a central inspection bureau, aided by a laboratory for the study and determination of physical standards—both in Boston. They, as well as the stock factory insurance associations, are specially active in spreading the doctrine of fire prevention in all its phases and hence are able to conduct continuously profitable underwriting at net final charges of from five to ten cents per \$100. Such insurance is all done without commissions to agents and brokers. Insurance in the United States covers about \$35,000,000,000 of property—about 80 per cent of which is stock insurance averaging a rate of approximately 1 per cent per annum.

The bulk of city property is stock insured at flat rates. These rates are determined by the application of an automatic universal rate schedule, based on the ideal building for its respective occupancy on an ideal location, which is modified by the local rate conditions, fixed by the local stock underwriting board having jurisdiction, and further modified by the conditions of the property itself, ascertained through surveys by the same local board.

Many of these local boards have, especially in recent years, displayed commendable interest and energy in broadcasting fire preventive doctrines; and the active managers of these have welcomed the submission of plans for construction and reconstruction of buildings in advance for criticism as to fire prevention and protection—all of which is admirable work. Others, however, are so influenced by the agent and broker element in their membership as to be indifferent to this aim.

The total personnel of all these interweaving boards is so great, however, and the views and purposes so varying, that no fixed general policy is yet in evidence on their part as a whole to exercise their best knowledge, experience and influence to prevent fire waste to the practical limits possible.

The National Board of Fire Underwriters (New York) is the stock body which speaks for the policy of the stock insurance interests. It operates the Underwriters Laboratories, Inc. (Chicago), for the detailed physical study and determination of fire appliances (standards of appliances,) in general coöperation with the Mutual Laboratory (Boston); and does much good publicity work.

The National Fire Protection Association, which numbers in its active membership all the stock and mutual boards, bureaus, associations, etc., as well as a large and growing number of engineering and trades associations of national scope, combines the general engineering opinion of the country on the physical facts relating to fire danger, and formulates the standard rules and requirements (standards of practice) to control fire hazard of every description promulgated by the National Board of Fire Underwriters for the guidance of its associated local boards. Copies of these standards are procurable by any one from these bodies.

The National Fire Protection Association is the best equipped organization in existence today in experience on the subject of fire waste and its control, and the most altruistic and progressive of these formed in large part of insurance representatives. It is growing more and more representative of all the interests of the country touching this problem. It has been an active force in the past in spreading the general doctrine of fire prevention and promises in the near future to become a much more effective influence in this propaganda.

The twenty-five odd state fire prevention associations in as many states, composed almost entirely of insurance personnel, are also doing excellent work in fire-preventive inspections and public education.

So far in this country almost every fire safeguard has been a matter of voluntary adoption. Too much liberty has been left to the individual about constructing, protecting, equipping, occupying and managing property—to suit his greed, ignorance, indifference, or shiftlessness—thus permitting a frightful loss in life and prop-

erty, resulting in a constant heavy and largely useless waste in both to the whole people.

The bulk of insurance influence to date has exerted itself in: (1) A protest in general terms against fire waste; (2) the preparation of physical "standards" usable to control the evil; (3) a system of underwriting which as a rule penalizes bad conditions only by charging a high rate on such bad conditions, which are discovered by constant inspection, and limiting the amount of such risks written. Most of the bulk underwriting is done through agents and brokers, now claimed to be too highly paid and inadequately regulated, whose influence is baneful to the extent that both on the average are merely eager to do the largest business at the highest commission, and hence are not interested in property loss as owner or insurer.

Losses when they occur are usually settled through adjusters, who also need more regulation—as recent arson cases in New York and Chicago have disclosed. In the main the aim of the large majority of insurance underwriters is to make their business profitable. This end is best attained by collecting the largest gross premiums and saving at least half of these by skillful business management—the method being a continued process of leaving property largely as it is found or alleged, charging the highest obtainable rate, distributing the risk, paying good agents and brokers liberally for securing such contracts (averaging over 20 per cent of the gross premiums) and taking chances on fire loss, without any special provision for the life hazard.

Such is the bare outline of the machinery, physical and commercial, which insures property against fire in America. Almost all we know about the physical engineering control of fire danger has been originated and brought to its present perfection through the medium of insurance engineers. It is enough at this date if sufficiently widely known and applied to be fully 90 per cent efficient, hence we should now center our attention on applying it adequately. It must be clear why under these loosely controlling conditions we have so much fire waste of life and property in America. How can anyone question the conclusion that society should now fully measure and reckon with this common and largely controllable danger to life and property, and sternly and effectively take the situation in hand all over the country through appropriate legal regulation, both for humanitarian and economic reasons?

Substantial relief from this danger can be brought about in any state or city by any group of men, or almost by any one man, who will devote time, money, purpose and intelligence to this end.

It is pertinent here to briefly review recent history on this subject in Pennsylvania and Philadelphia to make this point clear, although this closely touches my own activities.

Starting actively on the problem here early in 1911, I have been able by gradually disseminating correct information, creating interest and winning support of individuals and organizations, to procure the passage of legislation in its present effective form establishing the offices of Pennsylvania state and Philadelphia city fire marshals and to completely reorganize the operation of the latter office so that it now does efficient work through the agency of the Philadelphia fire prevention commission.

The Philadelphia fire marshal now has the use of seventy-five active firemen, whose time was formerly absolutely wasted, who inspect and re-inspect about three hundred buildings per day and all the theaters in accord with an absolute continuous system. They have within six months corrected over 60,000 fire-breeding conditions and all of this work has been done to the distinct betterment of fire danger to life and property in this city.

As this work in Philadelphia, planned and initiated as above described, progressed we found much valuable data and experience procurable from a few other progressive states and cities in the country. It was evident, however, that the great bulk of the country was scarcely awake to the known means whereby nation-wide actual progress in fire waste control could be effected, and only touched the high spots in their solution of the problem—and these not in common. As the cost of insurance is admittedly a nation-wide tax, based on the average of the total fire waste of property and associated expenses, including the cost for public fire protection, it is obvious that there must be a nation-wide reduction of fire waste if the insurance cost is to be reduced, and further that loss of life and health, and from business interruption arising from this cause, can only be lowered by reducing the property loss. The United States Geological Survey, *Bulletin* No. 418, 1907, on "The Fire Tax and Waste of Structural Materials in the United States," as well as the annual reports of the National Board of Fire Underwriters during the past five years, provide the best summaries of this waste; which

is now estimated at \$300,000,000 per annum, or, including associated costs, \$450,000,000 per annum—the lower figure averaging a charge of \$3 per capita per annum upon every man, woman and child in the country, distributed throughout everything they use in life.

Admittedly a legally enforced policy of fire prevention and protection all over the country would attack the source of fire waste; and would save, according to the soundest judgment, from one-half to two-thirds of this loss in life and property within the life of most of the people now living. This is the most important avenue of improvement in life and property loss from fire, and of reduction in insurance cost. The further possible reduction in insurance cost derivable from lowering the expense of doing business by the reduction of the extravagant commissions paid for selling insurance contracts can only be referred to here.

Fire, the cause of all this trouble, is always local in origin. Under our governmental system the state is the unit of local control and can in turn regulate its cities and country districts; and so we must look to a sum total—uniform as nearly as may be—of state action, imposed in turn over all of the area of each, if we are to eliminate the bulk of American fire waste. Progress in this matter in a few states and cities does not bring reasonable or adequate relief. Large and wide betterment must be achieved to produce an average proper reduction in life and property waste, and in the cost of insurance and public fire protection.

Has not the time come, however, for the national government to do a great service to the country by collecting the total studies on fire waste, prevention, protection and insurance, and formulating these suggestions and conclusions for use by the country as a whole?

While every fire is local in its origin, the sum total of all fires, or fire waste, is certainly national in effect; and the necessary method of collecting this tax through the virtually semi-public function of insurance underwriting and the insurance policy contract constitutes a truly national problem with us at this time.

I quote in conclusion on this point from the Illinois fire insurance commission:

“From nearly every standpoint fire insurance seems to be interstate in its nature, perhaps more nearly so than any other business. It is based upon averages and distribution, and if we take into account large conflagrations neither average nor distribution can be intelligently applied within the limits of any single state.”